

Abstract

The present invention relates to non-aqueous electrolyte secondary batteries. The negative electrode contains, as main a component, composite particles constructed in such a manner that at least part of the surface of nuclear particles comprising at least one of tin, silicon and zinc as a constituent element, is coated with a solid solution or an inter-metallic compound composed of elements included in the nuclear particle and at least one element, exclusive of the element included in said nuclear particle, selected from a group of elements in a Periodic Table, comprising group 2 elements, transition elements, group 12 elements, group 13 elements and group 14 elements exclusive of carbon. The batteries of the present invention include non-aqueous electrolytic solution and solid electrolytes comprising polymer gel electrolytes. The construction of the present invention provides a non-aqueous electrolytic secondary battery with which a possibility of the generation of gas is extremely low when stored at high temperatures. It also provides a battery having higher capacity, and superior cycle properties, high-rate charge/discharge properties.